REMARKS

The Pending Claims

Claims 1-32 are pending in this application. Claim 32 is the only new claim.

The Rejections

Claims 9-17, 20 and 26-28 were rejected under 35 U.S.C. § 112, second paragraph.

Claims 1-3, 5, 6, 8, 18, 20-23, 25, 28 and 29 were rejected under 35 U.S.C. § 102(b) as being anticipated by Murphy (U.S. 4,235,221).

Claims 9, 10 and 15 were rejected under 35 U.S.C. § 102(b) as being anticipated by Dodge (U.S. 4,316,448).

Claims 1-8, 18, 20-23, 25 and 28-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable (nonobvious) over Murphy in view of Takaoka (U.S. 4,493,940) and Kravitz (U.S. 4,106,952).

Claims 1-3, 5, 6, 8-11, 13-16, 18-26, 28, 29 and 31 were rejected under 35 U.S.C. § 103(a) as being unpatentable (nonobvious) over Murphy in view of Dodge.

Claims 4, 7, 12 and 30 were rejected under 35 U.S.C. § 103(a) as being unpatentable (nonobvious) over Murphy in view of Dodge, Takaoka and Kravitz.

Claims 17 and 27 were rejected under 35 U.S.C. § 103(a) as being unpatentable (nonobvious) over Murphy in view of Dodge, Takaoka, Kravitz and Feustel (Germ-DE 3005876 A1).

Response to the 35 U.S.C. § 112 Rejection

The Examiner expressed concern about certain phraseology contained within the claims because of an alleged lack of precision and because of certain relative terminology contained within the claims.

However, relative terms are frequently used in claims, with the approval of Examiners, the Board of Patent Appeals and Interferences and the U.S. Court of Appeals for the Federal Circuit. The standard is found in MPEP § 2173.05(b):

> The fact that claim language, including terms of degree, may not be precise, does not automatically render the claim indefinite under 35 U.S.C. 112, second paragraph, *Seattle Box Co., v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 221 USPQ 568 (Fed. Cir. 1984). Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed, in light of the specification.

Consistent with MPEP § 2173.05(b), attention is directed to: *Allergan Sales, Inc. v. Pharmacia & UpJohn, Inc.*, 41 USPQ 2d 1283 (SDNY 1996) ("relatively small" does not violate § 112, second paragraph); *Oakley, Inc. v. Sunglass Hut International*, 61 USPQ 2d 1658 (CD Cal 2001) ("vivid color" does not violate § 112, second paragraph); and *Chemical Separation Technology, Inc. v. United States*, 63 USPQ 2d 1114 (Fed Cl 2002) ('closely adjacent" satisfies § 112, second paragraph).

A review of controlling § 112 case law may be helpful.

The basic § 112, second paragraph case law standard is set forth in *Antonious v. ProGroup, Inc.*, 217 USPQ 875, 877 (6th Cir. 1983), which is:

> The standard of definiteness is one of reasonableness under the circumstances. *Charvat v. Commissioner of Patents* , 503 F.2d 138, 147-51, 182 USPQ 577, 584-88 (D.C. Cir. 1974); *Georgia-Pacific Corp. v. United States Plywood Corp.*, 258 F.2d 124, 136, 118 USPQ 122, 131-32 (2d Cir. 1958). The teachings of the prior art and the nature of the particular invention are to be considered in determining whether the claims meet the statutory requirement of definiteness and particularity. *In re Moore*, 439 F.2d, 1232, 1235, 169 USPQ 236, 238-29 (CCPA 1971).

Reliance upon the knowledge of those skilled in the art does not violate § 112. See *State Industries, Inc. v. A.O. Smith Corporation*, 221 USPQ 958, 975 (Tenn. Dist. Ct. 1983), which holds:

> Every patent application relies to some extent on the reader's knowledge of the terms, concepts and construction it embodies and, therefore, relies to some extent upon knowledge of persons skilled in the art to complement that disclosed in order that it be enabling within the meaning of 35 U.S.C. § 112. *In re Lange*, supra; *In re Wiggins*, 488 F.2d 538, 543, 179 USPQ 421, 424-25 (CCPA 1973); *Reno Co. Ltd. v. Molina Machine Co., Inc.*, 211 USPQ 303 (3d Cir. 1981).

There is no fundamental ambiguity based upon the aforesaid reasonableness standard in the claims of the above-identified patent application. The standard for definiteness is not only one of reasonableness under the circumstances, but must take into account the teachings of the prior art and the nature of the invention at hand. See *Radio Steel & Mfg. Co. v. MTD Products, Inc.*, 220 USPQ 35, 41 (Ohio Dist. Ct. 1983), which states:

> The standard of definiteness is one of reasonableness under the circumstances, and the teachings of the prior art and the nature of the particular invention are to be considered in determining whether the claims meet the statutory requirement of definiteness and particularity*Antonious v. ProGroup, Inc.*, 699 F.2d 337, 217 USPQ. 875 (6th Cir. 1983). (Emphasis provided.)

The Federal Circuit has rejected the notion that literal support in the specification for terms in the claims which are understood is required under § 112. See *In re Kaslow*, 217 USPQ 1089, 1096 (Fed. Cir. 1983) which states:

> The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claimed language. *In re Edwards*, 558 F,.2d 1349, 196 USPQ 465 (CCPA 1978); *In re Herschler*, 591 F.2d 693, 200 USPQ 711 (CCPA 1979) (Emphasis supplied.)

The aforesaid standard, as to claims, was repeated by the Board in *Ex parte Kristensen*, 10 USPQ 2d 1701, 1703 (Bd. of Pat. Appeals and Interf. 1989), which states:

> In *Moore*, the court held that with respect to the second paragraph of Section 112, the inquiry is "to determine whether the claims do, in fact, set out and circumscribe a particular area with a reasonable degree of precision and particularity." (Emphasis added.)

The Board points out in *Ex parte Adrianus P.M.M. Moelands*, 3 USPQ 2d 1474, 1476 (Bd. of Pat. Appeals and Interf. 1987) that:

> We will also not sustain the rejection . . . under 35 U.S.C. 112, second paragraph. This statutory provision merely requires that the claims set forth and circumscribe a particular area with a reasonable degree of precision and particularity. The definiteness of the claim language employed must be analyzed in a vacuum, but always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one having ordinary skill in the pertinent art. *In re Moore*, 58 CCPA 1042, 439 F.2d 1232, 169 U.S.P.Q. 236 (1971). (Emphasis supplied.)

Similarly, the same standard is set forth in MPEP Section 706.03(d) which reads:

> . . . [the Examiner] should allow claims which define the patentable novelty with a reasonable degree of particularity and distinctness. Some latitude in the manner of expression and the aptness of terms should be permitted even though the claim language is not as precise as the examiner might desire. (Emphasis provided.)

Nevertheless, to accommodate the preferences of the Examiner, the claim recitations of concern to the Examiner have been either canceled or modified into a form believed to be more acceptable to the Examiner, with one exception.

That exception concerns "low vertical profile." There can be no doubt as to what "low profile" means. For example, during high wind conditions, "high profile" tractor trailer rigs are denied access to a high speed highway, while "low profile" vehicles, such as automobiles are allowed to travel on the highway, not withstanding high wind conditions.

"Low profile," in the context of the present invention, is a category and art distinct and separate from "high profile" solar converters, such as Feustel (DE 3005876).

Webster's International Dictionary unambiguously defines "profile" as:

> . . . a side or sectional elevation . . . .

Webster's International Dictionary clearly defines "high" as:

> . . . having a relatively great upward extension . . . .

Webster's International Dictionary clearly defines "low" as:

. . . having a relatively small upward extension . . . .

There is absolutely no doubt that one of skill in the solar energy conversion art knows with exactness the meaning of "low profile."

Reconsideration and withdrawal of the § 112 rejection is proper based upon the foregoing and the applicable amendments to the claims. Such action is courteously invited.

Objection to the Disclosure

The continuity data requested by the Examiner in paragraph 3 of the Office Action mailed June 8, 2005 has been provided in the form of attached Exhibits C and D, to be made of record in the above-identified patent application.

Suggested Claim Language

The recommendation by the Examiner that "A and D" be inserted at certain locations in the claims has been adopted and the claims have been so amended.

The Objections to the Drawings

The Examiner, at paragraphs 1 and 2 of the Office Action mailed June 8, 2005, objected to the drawings because of confusion in Figures 5-8 and at page 11, lines 7-13, 20; and page 12, line 4, of the specification, in respect to the use of "60" and "62."

In lieu of any modification to the drawings, the specification has been amended, without introduction of new matter, so as to correct an inadvertent misuse of "62," when "60" was the appropriate numerical reference. Thus, the specification now correctly states that side rails of the frame 52 are identified by the numeral "60," as shown in the drawings at the time of filing. All references to either of the two side frames have been referenced to the numeral "62," as clearly shown in the original drawings. Apologies for this inadvertent error are extended to the Examiner.

Analysis of the Prior Art

Murphy (4,235,221) discloses a solar energy collection system usable only in a buoyant form, as a floatation platform on a body of water. Any one of the several embodiments of Murphy will be costly and complicated. Because flotation and buoyancy are required, Murphy's solar systems cannot be used directly with houses or on land and cannot, as a matter of obviousness, be adapted for non-flotation use.

Since the present invention is limited to flat plate solar panels, any analysis of Murphy requires care to segregate that portion of Murphy's disclosure relevant to flat plate panels from the remainder of the Murphy disclosure.

The embodiment of Figures 1 and 2 of Murphy discloses "a simple solar energy collection array, group or 'farm' ***disposed over a body of water*** which provides thermal energy storage . . . ." Column 2, lines 34-36. The solar energy collectors of the Figure 1-2 embodiment of Murphy comprise rows of solar energy collectors 9. However, a few of the solar collectors may comprise "separate electrical energy . . . sections 9'". Column 4, lines 59-60. Electricity so obtained is placed in storage, at 26 in Figure 2. So, Murphy limits his solar collectors to either thermal or electrical but not a combination of the two.

In respect to being position variable, the collectors 9 and 9' of Figures 1 and 2 do not rotate around a vertical axis as the thermal floating, insulated platform 3 is rectangular in configuration and is constrained in a stationary position and, therefore, does not rotate around a vertical axis. See Figure 2. The solar energy collectors 9 and 9' may only "be adjusted in tilt periodically, such as by [manually] moving or adjusting support legs 15 . . . ." Column 4, lines 3-5.

In summary, the flat plate panel arrangement shown in Figures 1 and 2 of Murphy does not per se disclose any solar energy collector where solar cells generate electricity and liquid coolant

cools the solar cells. The Murphy embodiment of Figures 1 and 2 does not provide for biaxial (horizontal and vertical axes) solar collector adjustment to maintain the face of each collector or panel in perpendicularity with the rays of the sun.

Note that the thermal collectors 9 dump the liquid effluent therefrom into the large body of flotation water 1 and this heated water near the top of body of water 1 is displaced through tube 17 to multiple utilization points 19. The effluent is returned to the body of water 1 via return tube 20.

The Murphy embodiment of Figures 3 and 4 comprises an array of solar collectors 36 which are associated with a flotation platform 31. The platform per se does not rotate but circular platform sections 37 within the platform are rotatable while being supported in floating relationship on body of water 1'. Platform sections 31' are not rotatable. Platform sections 37 are separated from platform sections 31' by a spacing, gap or crevice 40, "permitting the sections [each section 37] to rotate easily in azimuth in a stabilized manner." Column 6, lines 53-54.

Murphy is silent as to exactly what each solar collector 36 consists of. It is not clear that each collector or panel 36 is of the flat plate variety or formed in a concave fashion. It is likewise not clear whether each collector 36 is limited to thermal utilization, but such appears to be the case as Figure 3 and 4 fail to show any element by which electricity is generated. Furthermore, no element for storage of electricity is disclosed. Therefore, it must be concluded that the embodiment of Figures 3 and 4 of Murphy is limited to conversion of solar energy to thermal energy. See in particular the water influent and effluent tubes connected to each collector 36, where the effluent is processed through pumps 49 and 50 for utilization.

Collector 36 may be constructed so that the tilt thereof is altered by motor 53. Figure 4. However, no mechanism is shown by which the associated floating platform section 37 may be rotated, other than by manual adjustment. Therefore, it follows that manual rotation of any platform

section 37 would be required. Therefore, the face of each collector 36 is not and cannot be maintained in a perpendicular relationship with the rays of the sun, since, as one collector 36 is manually adjusted rotationally to create perpendicularity, the other collectors would be out of perpendicularity. Furthermore, no mechanism is disclosed in Murphy by which motor 53 would automatically change the tilt of associated collector 36 and, therefore, actuation of motor 53 would require operator attention. Thus, an operator would have to constantly be aboard the floating platform and would have to move from platform section 37 to platform section 37 to successively adjust the rotationally rotation of each platform 37 and would have to periodically actuate motor 53 to adjust the tilt of each collector 36. The consequence of this required operator-controlled effort would be that at any given point and time, only one collector 36 would be perpendicular with the rays of the sun, i.e., the collector 36 immediately following tilt and rotational adjustment by the operator.

The embodiment of Figure 5 of Murphy is not germane, as it is a horizontally-disposed embodiment which is not equipped for any form of tilt or other positional change. The embodiment comprises solar cells 79 and a thermal tube which is essentially separated substantially from the thermal cells by a plurality of layers, which, in effect, would not allow fluid in thermal tube 67 to, in any meaningful way, cool the solar cells 79. Specifically, Murphy states that "tube 67 . . . provides cooling of sandwich-layers mounted above and against the plates [68 and 69]." Column 8, lines 18-22.

Figures 6 and 7 of Murphy merely disclose insulated influent and effluent conduits for the flow of hot and return water.

The embodiment of Figures 8 and 9 of Murphy is fundamentally irrelevant since these Figures and the correlated descriptive material of the specification deal with concave reflectors, not

flat plate panels. One of ordinary skill in the art is not taught by Murphy that the substance of Figures 8 and 9 applies to or could be adapted for application to flat plate solar panels.

Figure 10 of Murphy merely emphasis, among other things, the non-rotatable nature of the flotation platforms mandated by Murphy for utilization.

Dodge (U.S. 4,316,448) is fundamentally irrelevant to the present invention and pertains to an array 10 comprising flat plate panels 14 of solar cells wherein each flat plate panel 14 and the associated solar cells thereof are mounted on fixed frame 16 and remain in the fixed angular, non-rotatable orientation, as illustrated in Figure 1. In other words, the flat panels 14 of solar cells never latitudinally rotate at all around a vertical axis, and the azimuth tilt thereof is not changed around a horizontal axis. Between successive flat plate panels, mounted on frame 16, are inverted V-shaped flexible reflectors 12 each of which comprise an apex defined by the location of a support rod 34. The reflectors are the only adjustable part of Dodge. The range of adjustment is shown in Figure 5, where arms 36 are pivoted through a few degrees (perhaps 5 degrees) about pivot point 42 to slightly change the location of rod 34 and, accordingly, modestly change the location of the apex of flexible sheet 12.

Flexible sheet 12 is comprised of a transparent thermoplastic base material such as Kynar and a thin external coating of aluminum from which the rays of the sun are reflected. The reflector sheet 12 comprises a thickness of 5 mils. See column 2, lines 32-41. In summary, reflector 12 does not rotate, but rather the apex thereof is linearly altered as the side rods 36 are pivoted around pivot point 42, as illustrated in Figure 5.

From the foregoing, it is clear that the flat plate panels 14 remain in a fixed position. Neither the flat plate panels 14 nor the reflectors 12 rotate at all about either a horizontal or a vertical axis. As stated by Dodge:

> The structure is simple to construct, inexpensive, reliable, substantially free of maintenance, and ***requires no tilting*** of the arrays and ***only the sliding of one or more control rods several times a year***, i.e., to accommodate the changing seasons.

Column 1, line 66 - column 2, line 2.

Accordingly, Dodge does not follow the sun nor does Dodge maintain the flat plate panels 14 in a perpendicular relation with rays of the sun.

Takaoka (U.S. 4,493,940) provides very little instruction of any particular relevance to the present invention, as set forth in the currently pending claims. The invention of Takaoka has to do with installation of a light permeable glass plate 10 over a sealing collar 11, which is superimposed over a flange 4' of container 4 to protect an array of solar cells 9, which are cooled by fluid passing through a copper or aluminum tube 7. Takaoka constrains his "sunlight into electrical and thermal energy conversion apparatus" to a horizontal orientation which does not tilt nor have a variable tilt. It does not rotate to follow the sun around a vertical axis.

As a matter of fact, "the light-permeable glass plate ensures that the solar cells contained therein are thoroughly protected [from debris]." Abstract, lines 13-15.

To practice his invention, Takaoka requires that the coefficient of thermal expansion of a metal sealing collar 11 and the glass plate be essentially equal. Takaoka also requires use of frit glass, a binding agent, between the glass plate 10 and the sealing collar 11. Column 3, lines 20-25. Takaoka concedes that the embodiment of Figures 2 and 3 of his patent does not hermetically seal the interior thereof when glass plate 10 is joined to sealing collar 11, as Takaoka states the embodiment of Figures 4 and 5 "is much more airtight." Column 4, lines 21-22. This statement indicates that neither the embodiment of Figures 2 and 3 nor the embodiment of 4 and 5 is completely airtight. This means the interior thereof is not at vacuum pressure.

In any event, Takaoka does not disclose a one-piece sealing layer circumscribing the entire panel.

Feustel (German-DE 3005876 A1) discloses little if anything which is relevant to the present invention. Feustel projects from a single column mounting location upward into the air, stacks one solar section on top of another and provides a huge area highly vulnerable to certain adverse weather conditions, including high wind forces. Clearly, Feustel is a "high profile" device, the utility of which is very doubtful. It is a single pedestal arrangement which lacks an enabling disclosure and in this regard, attention is directed to *In re Payne, et al.*, 203 USPQ. 245, 255, where it is stated:

> References relied upon to support a rejection . . . must provide an enabling disclosure, i.e., they must place the claimed invention in the possession of the public. *In re Brown*, 51 CCPA 1254, 1259, 329 F.2d 1006, 1011, 141 USPQ 245, 249 (1964).

While Feustel indicates that he has a "electronic tracking circuit," it is not stated that such a circuit actually existed at filing nor is the commercial availability thereof by model number, etc., disclosed. It is doubtful in 1981, when Feustel was filed, that such an electronic device existed. Likewise, it is doubtful that elements 21, said to be light-sensitive cells were able to utilize incident light to instruct electronic tracking circuit 20 to perform some useful function. In any event, elements 20 and 21 are absolutely without enablement in Feustel.

It is clear that Feustel does not teach or suggest a way by which liquid can be used to cool the vertically stacked solar cells 11. Furthermore, there is absolutely no way that the low end of demand, i.e., homeowners, could afford to build nor provide the space necessary for the ongoing operation of the Feustel device.

Kravitz (U.S. 4,102,952) discloses a very complex assemblage of solar panels which would not be cost effective. Kravitz shows his solar panels in horizontal relation, but does indicate they

may be mounted across a roof or other support. Kravitz does not disclose any form of tracking of the sun by his solar panel apparatus, which means one things, i.e., that once placed, the Kravitz solar apparatus would be in a fixed position, flat, if the roof or other structure is flat and at an angle if the roof or other structure is so disposed. Each solar panel is said to be hermetically sealed and comprises a top glass plate 5 through which solar radiation passes. A plurality of focus lenses 6 is located immediately below the transparent glass sheet 5. Lenses 6 cause the sunlight passing therethrough to be redirected to some extent causing a substantial portion to impinge upon the top surface of each of a series of spaced photoelectric cells 7.

The sunlight passing between the photocells 7 impinges upon and heats the support plate 8. Plate 8 is formed of material which is insulated to electricity but thermally conductive. Heat from each photocell 7 also is communicated not to cooling tubes but to support plate 8 and from thence conductively to thermopile 11 via elements 12, 14, and 13.

Kravitz states:

> . . . the term thermopile to broadly indicate such a device that directly converts heat to electricity.

Column 4, lines 51-52. This electricity created at thermopile 11 is conducted between panels by electrical conductors 23.

While Kravitz indicates the primary purpose of thermopile 11 is to produce electricity, he also states:

> Thermopile will use some of the heat to produce electricity and conduct the remainder of the heat downwardly through the unit.

Column 5, lines 24-26.

Residual heat delivered to heat sink plate 15, via the thermopile 11, is conducted to heat exchange fins 16 and thence to serpentine tube 17. While an insulation layer 23 is shown in Figure

1, it does not surround the tube 17 but is merely slightly contiguous with the bottom of each run of tube 17.

From the foregoing, the complexity, manner of mounting, the distance between the photocells 7 and tube 17, and a lack of any disclosure suggesting that the solar panels of Kravitz would and could follow the path of the sun through the sky to remain perpendicular therewith, makes Kravitz indeed remote from the claim subject matter of the present invention.

Response to the 35 U.S.C. § 102 Rejection

As pointed out above, none of the § 102 references teach every element and every function of the claims so rejected.

A review of controlling §102 case law will be helpful as a beginning point.

The earlier reliance was and any further reliance on U.S.C. § 102 would be misplaced as such violated and would continue to violate the strict "every element" [or every step] and "every function" requirements of U.S.C. § 102. Restated, § 102 may be applied to a claim only when "every element" and "every function" of the claim is found in the § 102 reference. For example, Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Co. et. al., 221 USPQ 481, 485 (CAFC 1984), which emphasizes the "every element" requirement:

> Anticipation requires the presence in a single prior art reference of each and every element of the claimed invention arranged as in the claim. Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983); SSIH Equip. S.A. v. USITC, 718 F.2d 365, 218 USPQ 678 (Fed. Cir. 1983). In deciding the issue of anticipation, the trier of fact [Examiner] must identify the elements of the claims, determine their meaning in light of the specification and prosecution history, and identify corresponding elements disclosed in the alleged anticipation reference. (Emphasis supplied.)

RCA Corp. v. Applied Digital Data Systems, Inc., 221 USPQ 385, 389 at fn. 5 (Fed. Cir. 1984) emphasizes the "every function" requirement:

> Anticipation is determined by comparison of the reference with the claims. The claims here define the invention in terms of several specific "means plus function" elements. The limitations which must be met by an anticipatory reference are those set forth in each statement of the function. In re Mott, 557 F.2d 266, 269, 194 USPQ 305, 307 (CCPA 1977). Such a limitation cannot be met by an element in a reference that performs a different function, even though it may be part of a device embodying the same general overall concept. (Emphasis added.)

The Federal Circuit confirmed the forgoing in Diversitech Corp. v. Century Steps, Inc., 7 USPQ2d 1315, 1317 (Fed. Cir. 1988):

> For a prior art reference to anticipate in terms of 35 U.S.C. Section 102, every element of the claimed invention must be identically shown in a single reference. See Hybritech, Inc., v. Monoclon al Antibodies, Inc., 802 F.2d 1367, 1379, 231 USPQ 81, 90 (Fed. Cir. 1986), cert. denied, 107 S.Ct. 1606 (1987). (Emphasis provided).

Similarly, the Ninth Circuit, in Scott v. Inflatable Systems, Inc., 222 USPQ 460, 461 (9th Cir. 1983), has held:

> Anticipation is a technical defense which must meet strict standards. Schroeder v. Owens-Corning Fiberglass Corp., 514 F.2d 901, 904, 185 USPQ 723, 725-26 (9th Cir. 1975). "Unless all of the same elements are found in exactly the same situation and united in the same way to perform the identical function in a single prior art reference, there is no anticipation." Walter v. General Motors Corp., 362 F.2d 56, 68 (9th Cir. 1966). (Emphasis supplied.)

Here, as in Ex parte Murphy and Burford, 217 USPQ 479, 481 (Bd. App. 1982), the Examiner must consider all of the limitations of the claims. In this regard, Ex parte Murphy and Burford holds:

> Since all limitations of a claim must be considered in determining the claimed subject matter . . . and it is error to ignore specific limitations distinguishing over the reference. In re Boe, 505 F.2d 1297, 184 USPQ 38 (CCPA 1974).

The Examiner, in making the § 102 rejection, failed to give appropriate weight to functional statements tied to a specific structural means. This is error. As stated in Ex parte Bylund, 217 USPQ 492, 498 (Bd. of App. 1981):

> . . . contrary to the Examiner's assertions, functional language in the claims must be given full weight and may not be disregarded in evaluating the patentability of the subject matter defined employing such functional language. (Emphasis provided.)

The foregoing is wholly consistent with MPEP § 2131:

> A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegall Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the . . . claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but . . . identity of terminology is not required. *In re Bond*, 15 USPQ2d 1566 (Fed. Cir. 1990).

Any attempt to read the present invention, as presently claimed, fully into any single reference does not comport in any way with the actual elements and functions disclosed in any reference of record. Withdrawal of § 102 as a basis for refusing allowance is, accordingly, appropriate and is courteously requested. It is not permissible to reconstruct, rearrange and alter a reference and still comply with the statutory requirements of 35 U.S.C. § 102.

Response to the 35 U.S.C. § 103 Rejections

The limitations of the § 103 references do not under the claimed subject matter of this application obvious. See the Analysis of the Prior Art above, incorporated herein by reference.

A review of controlling § 103 case law will be helpful.

In addressing the question of whether or not the present invention, as claimed, is obvious or nonobvious under § 103, it is important that several factors be carefully weighed. First, case law requires that the Examiner engage in a "problem" analysis to determine whether or not the prior art addresses the same problem or a different problem than that which confronted the inventor prior to making the present invention. Hindsight reconstruction of the prior art based upon confidential access to the present application is not available to establish obviousness.

The problem confronting the present inventor is identified above. The inventor was able to solve his problem, whereas the prior art did not address and did not solve the problem.

If it is the Examiner's contention that the prior art addresses Applicant's problem and provide Applicant's solution, it is respectfully requested that the Examiner identify the locations in the references relied on where Applicant's problem is mentioned and addressed and the solution is presented.

In respect to the applicability of any reference against claims of a pending U.S. patent application, the Examiner's attention is directed to In re Gibbons, 100 USPQ 398, where it is stated:

> In considering the question of invention, it is necessary to determine whether or not the art relied upon contains adequate directions for the practice of the invention without resort to the involved application. (Emphasis added.)

The Examiner is courteously requested to find where in the references relied upon the requisite "adequate directions" are provided by the prior art relied on sufficient to reach the presently claimed combination and methodology. Since the prior art relied upon is neither intended nor able to achieve what the Applicant has achieved, as set forth in the presently pending claims, it is respectfully submitted that no directions whatever are provided by the references which would lead to the present invention, as claimed. Accordingly, the references should be accurately construed and withdrawn.

The pertinent primary inquiries in determining obviousness under § 103 are set forth in the Supreme Court's decision in Graham v. John Deere, 383 U.S. 1, 17, 148 USPQ 459, 467 (1966). The primary considerations set forth therein require (1) determination of the scope and content of the prior art; (2) identification as to the differences between the prior art and the claims at issue; and (3) resolution of the level of ordinary skill in the pertinent art.

Only by reliance on the long prohibited hindsight reconstruction can the prior art be rewritten to address a problem it failed to identify. See In re Winslow, 151 USPQ 48 (CCPA 1966) which mandates that the prior art must address and provide the inventor's answer to the particular problem confronting an inventor. Here, the references relied upon by the Examiner under § 103 do not identify Applicant's problem, nor does the prior art propose, expressly or inferentially or by sound reasoning, the claimed solution to the inventor's problem.

In Orthopedic Company, Inc. v. United States, 217 USPQ 193 (Fed. Cir. 1983), the Federal Circuit set forth a useful guide for determining the scope and content of the prior art. Orthopedic, at pages 196, 197, also focuses on the "problem" faced by the inventor:

> In determining the relevant art . . . one looks at the nature of the problem confronting the inventor.
>
> * * * *
>
> . . . would it then be nonobvious to this person of ordinary skill in the art to coordinate these elements in the same manner as the claims in suit? The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit [the patent application before the Examiner] as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of nonobviousness. . . . (Emphasis added.)

Applying the Federal Circuit's analysis in Orthopedic, it is clear that all of the claims of the present application are allowable under § 103. The prior art does not expressly teach or suggest the claimed combination and methodology. To read into the reference the inventor's present solution, necessarily requires hindsight reliance on Applicant's application, contrary to the instructions of Orthopedic.

Since the prior art teaches away from the claimed invention and does not address at all the problem of a low profile solar-to-electricity and thermal energy generator for household use which

automatically maintains perpendicularity with the rays of the sun and is incapable of doing so, § 103 prior art is disqualified as § 103 references. The Examiner may not use hindsight access to the present application in an effort to reconstruct and overcome the inadequacies of the prior art.

The Federal Circuit has also said that "[t]he claimed invention must be considered as a whole, and the question is whether there is something in the prior art as a whole to suggest the desirability, and thus the obviousness, of making the combination." (Emphasis provided). Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick, 221 USPQ 481 (Fed. Cir. 1984). The above standard was reiterated in Fromson v. Advance Offset Plate, Inc., 225 USPQ 26 (Fed. Cir. 1985).

Clearly, the present combination and methodology as set forth in the present claims, are not obvious "as a whole" from the references.

The Board of Appeals confirms that hindsight reliance through confidential access to an application being examined, in an attempt to arrive at the claimed invention under 35 U.S.C. § 103, is negated. See Ex parte Clapp, 227 USPQ 972, 973 (Bd. of App. 1985), which states:

> To support the conclusion that the claimed combination is directed to obvious subject matter, either the references must expressly or impliedly suggest the claimed combination or the examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. (Emphasis supplied).

There is no convincing line of reasoning available in respect to the reference by which an artisan would, as a matter of obviousness, have arrived at the present claimed invention absent any suggestion, express or implied, in the reference of the solution fashioned by the present inventor, as set forth in the claims.

Here, the indication of nonobviousness is substantial, under the primary considerations of Graham, i.e., the basic irrelevance of the prior art to the claimed combination, failure of others to

provide the inventor's solution both before and after the present invention and the fact that others have not foreseen the inventor's solution even though the prior art teachings have been around for some time. A determination of nonobviousness is compelling.

Nonobviousness follows from Panduit Corp. v. Dennison Manufacturing Co., 1 USPQ 2d 1593, 1605 (Fed. Cir. 1987):

> Indeed, that the elements noted by the court lay about in the prior art available for years to all skilled workers, without, as the court found, suggesting anything like the claimed inventions, is itself evidence of nonobviousness. (Emphasis provided.)

Where, as here, the prior art is simply incapable of functioning as required by the present claims and achieving what is achieved by the present invention, § 103 rejections cannot be sustained. Here as in Ex parte Gould, 231 USPQ 943, 946 (Bd. App. 1986):

> . . . the examiner has failed to make out a prima facie case that . . . [the prior art] achieved or is capable of achieving . . . [what is achieved by the present invention] we are constrained to reverse the rejections based on . . . [the prior art]. (Emphasis supplied.)

For the Examiner to assign attributes to the reference which do not, in fact, exist and to entirely discount the critical language within the claims which is directed to Applicant's combination does not comply with the Graham requirement of [objectively] identifying the differences between the claimed invention and the prior art. Under In re Wood and Eversole, 202 USPQ 171, 174 (CCPA 1979), it was necessary:

> . . . to more closely approximate the reality of the circumstances surrounding the making of an invention. . . . (Emphasis added.)

A brief examination of "hindsight" law as handed down by the Federal Circuit superimposed upon the facts of this case will be helpful.

See, for example, Union Carbide Corp. v. American Can Co., 220 USPQ 584, 591 (Fed. Cir. 1984):

> . . . helps us to guard against slipping into hindsight rather than viewing the question as the inventor at the time the patented device was developed." (Emphasis provided.)

The hindsight approach was further criticized in W. L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303, 312-313 (Fed. Cir. 1983):

> To imbue one of ordinary skill in the art with knowledge of the invention in suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher. (Emphasis added.)

The Federal Circuit repeated its prohibition against "hindsight" in Uniroyal, Inc. v. Rudkin-Wiley Corp., 5 USPQ 2d 1434, 1438, 1439 (Fed. Cir. 1988), where it was held:

> "When prior art references require selective combination by the court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself." Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination.
>
> * * * *
>
> There is no suggestion in any individual prior art reference of such a combination of location and configuration nor is it suggested by the prior art as a whole. ([I]t is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention).
>
> * * * *
>
> . . . the district court . . . does not show that there is any teaching or suggestion in any of the references, or in the prior art as a whole, that would lead one with ordinary skill in the art to make the combination.
>
> * * * *
>
> In view of the antithetical principles of operation and the absence of any teaching or suggestion to combine these prior art devices, there is no apparent basis for the district court's conclusion that it would have been obvious to one skilled in the art to make the combination. (Emphasis added; citations omitted.)

The Uniroyal analysis applies here as well.

Clearly, the present invention is not obvious, based upon the analysis of primary considerations mandated by the U.S. Supreme Court in Graham.

The rejection under § 103 has a further malady. It fails to give any weight to the fact that the prior art teaches away from the simplicity and reliability of the present invention. Here, as in In re Hedges, et al., 228 USPQ 685, 687 (Fed. Cir. 1986):

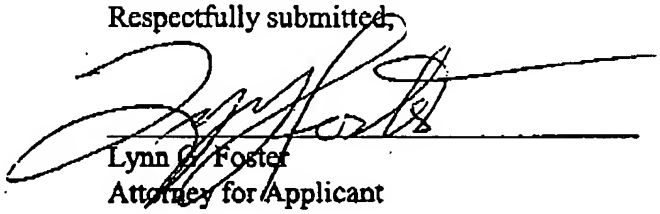
> "The totality of the prior art disclosures leads substantially away from the claimed invention". We agree with . . . [Applicant] that the prior art as a whole must be considered. The teachings are to be viewed as they would have been viewed by one of ordinary skill. "It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art". (Emphasis added; citations omitted.)

The § 103 references should be accurately construed, discarded as irrelevant and the pending claims allowed. Such action is courteously invited.

CONCLUSION

The § 112, § 102 and § 103 rejections cannot withstand close scrutiny, should be withdrawn, and all pending claims allowed as being patentable and satisfying the requirements of § 112, § 102, and § 103. Such action is courteously invited.

Respectfully submitted,



Lynn G. Foster
Attorney for Applicant

602 East 300 South
Salt Lake City, Utah 84102
Telephone: (801) 364-5633